

# The NICHD Connection

## November 2018

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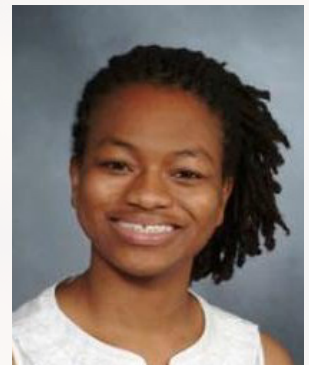
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## Lost in Space: A Surprising Path from Bench to Bedside

By Amber Simmons

I first found science when my mom walked away from mechanical engineering to become a librarian. While pursuing her master's degree, she went to the library every day, and my brother and I went along too. It wasn't long before I became enamored with reading and learning everything that I could find, which led to a knack for math and science and countless summer camps that revolved around those very subjects. The most memorable experience was at an aerospace camp at my local university. There were flight simulations, bottle rocket launches, even model space stations from LEGOs. For six summers, I continued to be amazed by the infinite discoveries to be made in outer space. The curiosity that I developed as a young child had blossomed into a fascination for science. My determination to become an astronaut and explore the unknown continued to grow far past the point of a child-like dream and inspired me to pursue physics in college.



*Amber Simmons,  
medical student at  
Weill Cornell Medicine  
and former NICHD  
Developing Talent  
Scholar*

As a sophomore at Hampton University, I was knee deep in basic physics research and slowly beginning to realize that something was missing in the lab. That's when I decided to meet with one of my research mentors, who happened to have an MD and a PhD. He suggested pursuing biomedical research in order to delve into medicine. With his encouragement, I took a chance and applied to the Gateways to the Laboratory Program at Weill Cornell, a summer internship for minority students interested in becoming physician-scientists.

I worked with Dr. Chris Mason, an ambitious investigator with impossibly creative projects. One of those was "PathoMap." It aims to study the microbiome of New York City's subways to develop a pathogen monitoring system to detect potential outbreaks before they begin. It was through this experience that I

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## Letter from the Editor

Earlier this year, Dr. Constantine Stratakis, Scientific Director of NICHD, called our attention to an [original investigation](#) published in *JAMA Pediatrics*, led by NICHD Director Dr. Diana Bianchi. The topic: optimal funding sources for physician scholars. As we continue our focus on physician scientists at the NICHD, Dr. Yvette Pittman, Director of the NICHD Office of Education, offers a [spotlight on this important issue](#) for our resident clinical fellows.

In our third follow-up with former NICHD postbacs who chose a clinical career field, [we hear from Amber Simmons](#), medical student at Weill Cornell Medicine. She describes the shift from her fascination with outer space to a desire to understand the human body, and the mindset that both practices require. We hope our current postbacs find a connection with these stories and realize the breadth of opportunities available in the clinical research space. And if you want to take that last sentence literally, check out [Dr. Anthony Hickey's former fellow follow-up](#) in March 2017, and consider studying biology *IN* space!

Here on Earth, we celebrate the news that former NICHD fellow Dr. Tasuku Honjo and colleagues share this year's Nobel Prize in Physiology or Medicine. Please see the [November announcements](#) for more information about Dr. Honjo's current work and his former research at the NICHD. Other important announcements include the upcoming [mandatory training](#) for all postdocs who began after January 2018, and a call for fellow [accomplishments and awards received](#) during 2018 for our "Year in Review" next month.

To all of our fellows, both in the clinical and basic sciences, have a wonderful November, and we'll catch up again next month before we transition into the new year.

Your Editor in Chief,  
Shana R. Spindler, PhD

Questions, comments, or ideas? Please contact our editor at [Shana.Spindler@gmail.com](mailto:Shana.Spindler@gmail.com).



## A Surprising Path from Bench to Bedside

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truly learned how invaluable medicine is to research, development, and innovation. Physicians who advocate for their patients push the boundaries of current treatments, inspire research investigators to fund new projects, and vitalize the scientific inquiries that propel medical advances. That project wouldn't have existed without the expertise and perspective of an experienced physician. I realized that innovation begins with a simple desire to help others who aren't able to help themselves.

Paying attention to detail and fostering an analytical state of mind drew me to physics and those same attributes pulled me towards medicine, managing to solidify my motivation to practice and enhance my attachment to the clinic. But even more important are the people. Being able to harness my curiosity into a concrete experience, to solve a problem and simultaneously save a life, are unique to medicine. People become physicians for the privilege to find better treatments, share more innovative ideas, and show greater compassion for those in need. And it is a privilege that I will never take for granted.





## Article Spotlight: Career Development Awards for Physician-Scientists

Research Summary by Dr. Yvette Pittman

Based on the following article:

"Association of National Institute of Child Health and Human Development Career Development Awards with Subsequent Research Project Grant Funding"

Authors: Dennis A. Twombly, PhD; Sarah L. Glavin, PhD; Jennifer Guimond, PhD; Susan Taymans, PhD; Catherine Y. Spong, MD; Diana W. Bianchi, MD

[JAMA Pediatrics. 2018;172\(3\):226-231.](#)

For more than 30 years, NICHD has demonstrated a strong commitment to training and career development programs (between 4.8-7.0% of its extramural funding). The overarching goal of NIH career development awards is to invest in the next generation of biomedical researchers, providing the necessary training and mentoring for young scientists to advance in their careers and conduct research independently. For this category of extramural funding, there are two major grant mechanisms: at the institutional level and individual awards.

When compared to other institutes of a similar size, NICHD has historically provided more funding to institutional career development programs. For example, NICHD allocated 38.3% of their extramural training dollars to institutional training awards in fiscal year 2014, and other institutes were steadily less than 11.2%. This significant difference was due to NICHD's investment in the K12 program, which provides support to domestic institutions that mentor clinical fellows and scientists to help them become independent research investigators. While at the same time, the NICHD success rates for individual career development awards have decreased drastically since 2000. In comparison, the success rates of other institutes were significantly higher. For example, the success rate for individual K08 and K23 awards were 44.6% and 45.2% for NIDDK in 2016 and 13.6% and 19.7% for NICHD, respectively.

Twombly et al. examined a cohort of 355 physician-scientists from the NICHD extramural training portfolio between 1999 and 2001; the scholars were divided into two subgroups: those with only an MD and those with both an MD and a PhD. The authors analyzed who received institutional career development awards and/or individual grants from the NICHD, and whether those physician-scientists secured subsequent funding as principal investigators (e.g. R01 awards).

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## Career Development Awards for Physician-Scientists

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Among the MD-only group, those who received an individual award or both an individual and institutional award were significantly more likely to apply and receive subsequent grant funding when compared to individuals who were only supported by an NICHD institutional award. From their cohort of scholars with a dual MD/PhD degree, the NIH research grant application and funding rates were not related to the type of training career development support received (institutional only, individual only, or both).

With regards to career outcomes, a majority of the physician-scientists in this cohort study were actively in academic careers and this association was not based on what type of career development support received. However, it was noticeable that scholars with only institutional support were more likely to pursue a career in clinical care when compared to those who received an individual award only or both individual and institutional.

Based on these significant findings—and with the ultimate goal to preserve the pipeline of our physician-scientists—NICHD plans to provide a greater percentage of its training and career development funding allocation to individual awards while continuing to support the institutional programs.

### IMPORTANT NOTE FOR NICHD INTRAMURAL CLINICAL FELLOWS

We encourage you to consider applying for an individual career development award (e.g. K99/R00) while training at the NICHD.

Check out the following link for possible NIH Career Development Awards (K Series) and their specific award information and current funding opportunities (<https://researchtraining.nih.gov/programs/career-development>).

Please also view the career development awards the NICHD is currently supporting (<https://www.nichd.nih.gov/grants-contracts/training-careers/extramural>).

The Office of Education can help guide you through the process of applying for an NIH career development award.



## Upcoming NIH-Wide Office of Intramural Training and Education (OITE) Events

For more information and registration, please visit [Upcoming OITE Events](#).

CVs and Resumes: Essential Job Search Documents (November 8)

Academic Job Interviews (November 9)

Finding Mentors and Building Networks—Research Excellence  
Mentorship Program (November 9)

Ethics in Research Training for Postbacs and Grad Students (November 13)

FelCOM Event: Careers in Industry R&D (November 13)

GPP Orientation for Graduate Students at the NIH (November 14)

Workplace Dynamics IV: Team Skills (November 14)

Postbac Seminar Series (November 15)

Preparing for the MCAT: Test-Taking Strategies and Test Day Preparation  
(November 16)

Interviewing for Graduate School (November 27)

Ethics in Research Training for Postbacs and Grad Students (November 28)

Industry: Interviews (November 28)

English Communication for Visiting Scientists (November 29 & 30)



## November Announcements

### FORMER NICHD FELLOW DR. TASUKU HONJO RECEIVES NOBEL PRIZE

For the full announcement and additional information, please visit the intramural research program website at [http://ddir.nih.gov/Current\\_Issue.html](http://ddir.nih.gov/Current_Issue.html).

Former NICHD fellow Dr. Tasuku Honjo shares this year's Nobel Prize in Physiology or Medicine with Dr. James Allison “for their discovery of cancer therapy by inhibition of negative immune regulation.” Honjo is well known for his identification of Programmed Cell Death Protein 1 (PD-1) and Activation-Induced cytidine Deaminase (AID). He was a postdoctoral research fellow under Dr. Phil Leder in NICHD from 1973 to 1974, staying on as a visiting fellow in 1975 and then again in 1977. Dr. [Keiko Ozato](#) in NICHD, who knew Honjo well during these years, noted that, in her opinion, Honjo’s stay in Leder’s lab likely helped to define his life-long research direction in the dynamics of immunoglobulin genes.

Honjo identified the PD-1 gene, the subject of his Nobel Prize, in Japan, but worked on its regulation at NIH and benefited from interactions with the larger immunology community. From 1992 to 1996, Honjo returned to the NIH as a Fogarty Scholar in Residence, living on campus and conducting research in various labs for three-month stints. In his summary statements from the Fogarty years, Honjo wrote of his desire to understand whether PD-1 was expressed during the development of mouse embryos. So he spent time in the NICHD laboratories of Drs. [Igor Dawid](#) and Kathy Mahon to learn the *in situ* hybridization technique for a whole mouse embryo. He also interacted with a who’s-who of immunology at the NIH, if not the world—Ron Schwartz, Tom Waldman, and the late John Ashwell and Bill Paul. “Such interaction helped me enormously to decide the next direction of own research,” Honjo wrote in 1993. More recently, he has collaborated with Drs. [Bob Crouch](#) (NICHD) and [Patricia Gearhart](#) (NIA), among others.

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Dr. Tasuku Honjo

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## November Announcements

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### AAAS MASS MEDIA SCIENCE & ENGINEERING SUMMER FELLOWSHIP

**Applications open October 16 – January 15!**

From the AAAS Mass Media Fellowship [website](#):

This highly competitive program strengthens the connections between scientists and journalists by placing advanced undergraduate, graduate, and post-graduate level scientists, engineers and mathematicians at media organizations nationwide. Fellows have worked as reporters, editors, researchers, and production assistants at such media outlets as the *Los Angeles Times*, National Public Radio, *The Washington Post*, *WIRED*, and *Scientific American*.

For 10 weeks during the summer, the Mass Media Fellows use their academic training in the sciences as they research, write and report today's headlines, sharpening their abilities to communicate complex scientific issues to non-specialists. Participants come in knowing the importance of translating their work for the public, but they leave with the tools and the know-how to accomplish this important goal.

For additional information about the program, visit [aaas.org/mmfellowship](http://aaas.org/mmfellowship).

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## November Announcements

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### HAVE YOU TOLD US ABOUT YOUR ACCOMPLISHMENTS THIS YEAR?

Every year, *The NICHD Connection* publishes a "Year in Review," where we share the many accomplishments of NICHD fellows. Did you win a poster award at a conference? Or maybe you received a grant or accepted a new job offer. We'd love to recognize your great news! Please send a letter to our editor, at [Shana.Spindler@gmail.com](mailto:Shana.Spindler@gmail.com), with your accomplishment(s) from 2018, and we will include them in our December issue.

### APPLICATIONS NOW BEING ACCEPTED FOR THE 2019 NCI TECHNOLOGY TRANSFER AMBASSADORS PROGRAM (TTAP)

TTAP is a one-year program for postdocs to gain training and mentorship in biomedical invention development, commercialization and entrepreneurship.

The program is specifically designed to be completed during your postdoctoral training and requires a time commitment of 8-10 hours per week.

Previous TTAP ambassadors are employed as:

- » Patent agents and technical specialists at law firms
- » Senior associates in clinical and corporate contract resource management in academia
- » Health science analysts in the federal government

For more information, including program requirements and how to apply, be sure to visit <https://techtransfer.cancer.gov/abouttttc/ambassadors>.

Please note that PI approval is required for acceptance into this program. **The application deadline is Monday, December 17, 2018.**

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## November Announcements

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### 15<sup>TH</sup> ANNUAL NIH GRADUATE STUDENT RESEARCH SYMPOSIUM — OUTSTANDING MENTOR AWARD NOMINATION

**From the NIH Office of Intramural Research and Education**

Every year, the Symposium recognizes three outstanding mentors for his/her leadership and dedication to his/her graduate students. To nominate your mentor, please write a brief nomination letter (1–2 pages) describing why your mentor should receive the GPP Outstanding Mentor Award.

**Nominations are due November 26, 2018 at 5PM!**

You may wish to consider how your mentor has played a role in the following areas:

- » Your ability to conduct science (critical evaluation skills, experimental design, etc.)
- » Your ability to communicate scientifically (written and oral)
- » Networking
- » Career development
- » Leadership/mentorship in the lab
- » Scientific responsibility

**[Nominate your mentor here!](#)**

### 15<sup>TH</sup> ANNUAL NIH GRADUATE STUDENT RESEARCH SYMPOSIUM — GRADUATE CERTIFICATES

Are you graduating soon or did you graduate in 2018? Every year, graduating students are recognized for their accomplishments and awarded a certificate by the GPP. The certificates are presented at the symposium by Dr. Sharon Milgram, Director of the Office of Intramural Research and Education. Submit the [certificate form](#) so we can congratulate you for your success! Graduates who are unable to attend the ceremony on February 21, 2019, can make arrangements to have the certificates mailed to them.

**The deadline to register for certificates this year is November 30, 2018.**

Submissions made after this date will have to wait until the next cycle.

All graduates are required to register in the [alumni database](#). If you have any questions, please contact [Dr. Philip Wang](#).

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## November Announcements

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### NICHD FELLOWS ADVISORY COMMITTEE: SEEKING NEW MEMBERS!

The Office of Education formed an advisory committee in 2016, and we are seeking several more dedicated members to help us develop and initiate academic support programs for the institute. Both domestic and visiting fellows are needed. We want to achieve a broad representation, culturally and academically, so we can address the needs of all our trainees at NICHD. The committee meets monthly to exchange ideas and informally discuss ways we can enhance and tailor the training experience within the NICHD intramural program.

Some potential topics for our committee are how to:

- » Increase the participation for training activities
- » Expose fellows to various careers in science
- » Identify teaching opportunities and internal and external research funding mechanisms
- » Establish a structure for sharing scientific and career resources within the institute

### **\*New this year, the advisory committee will also steer the 15<sup>th</sup> Annual NICHD Fellows' Retreat, to be held in Spring 2019.**

This includes developing the agenda/program, inviting speakers, reviewing abstracts, selecting fellow/student presenters, and moderating some of the sessions—it's a great service opportunity, plus you'll get to be part of the team that plans our biggest annual event for fellows!

Don't miss this opportunity to serve your intramural NICHD community.

The committee meets **once a month on Thursdays, from 3 to 4 p.m.** Our Fall dates are listed below:

- » November 8
- » December 6

Please contact Dr. Erin Walsh at [erin.walsh@nih.gov](mailto:erin.walsh@nih.gov) if you are interested in joining the group.

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## November Announcements

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### STUDY IN FRANCE WITH INSERM EXCHANGE PROGRAM

NICHD has established an exchange with Inserm (Institut National de la Sante et de la Recherche Medicale) in France, which provides a unique opportunity for American and French scientists to obtain postdoctoral training with French and American mentors, respectively.

We will train one fellow in DIR for a two-year period and send one “graduating” postdoctoral fellow from NICHD (visiting fellows are eligible) to a participating Inserm lab in France, for what essentially would be a second postdoc. To facilitate strong research collaborations between NICHD and Inserm, there will also be an opportunity for the awardees’ mentors to visit, in both directions.

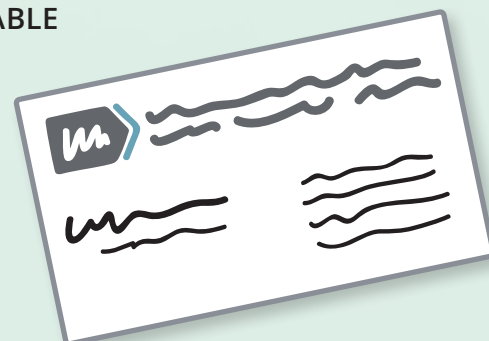
Our projected start date for trainees, for both institutes, is June 3, 2019.

If you are at the end of your training and may be interested in this program, please let the Office of Education know as soon as possible so we can work through the application process together.

NICHD fellows received an email containing the application instructions, including a list of 16 Inserm laboratories that participate in the program. Applications are due to Dr. Erin Walsh ([erin.walsh@nih.gov](mailto:erin.walsh@nih.gov)) by **Monday, December 31<sup>st</sup>**.

### BUSINESS CARD PRINTING NOW AVAILABLE THROUGH THE OFFICE OF EDUCATION

The Office of Education is offering business card printing for all NICHD fellows. Along with the official NICHD logo, cards can be customized to display your name and title/position, laboratory section or affinity group, and contact information. Please email Ms. Carol Carnahan ([carnahac@mail.nih.gov](mailto:carnahac@mail.nih.gov)) if you are interested.





## November Events

MONDAY, NOVEMBER 5

**Preparing And Career Exploration (PACE) Program**  
Natcher (Building 45), Conference Room A/B

Led by Lauren Celano, [Propel Careers](#)



***Developing a Targeted Resume, 10 – 11:30 a.m.***

This seminar will focus on how to highlight experiences and skills on a resume and cover letter, and the importance of tailoring these documents for specific roles in bench- and non-bench research, business development, marketing, consulting, product/project management, and medicine.

***Enhancing your Networking Skills, 1 – 2:30 p.m.***

Most people find networking intimidating and may shy away from this valuable activity. In this presentation, Lauren will provide tips to make the process less stressful and more effective, so you can make the most of your connections. Lauren will discuss ways to initiate and navigate conversations to keep the discussion flowing. Finally, Lauren will provide advice for networking using social media and other online systems.

This workshop is for participants pre-accepted into the 2018-2019 PACE program. For more information on upcoming opportunities, please contact Dr. Erin Walsh at [erin.walsh@nih.gov](mailto:erin.walsh@nih.gov).

MONDAY, NOVEMBER 5, NOON – 1 PM

**“Science & Society: Ethics and Reproducibility”**  
Mona Orr, PhD

This workshop is part of the 9-week course available for all NICHD postbacs. Pre-registration was required. For more information on upcoming opportunities, please contact Dr. Erin Walsh at [erin.walsh@nih.gov](mailto:erin.walsh@nih.gov).

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## November Events

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**THURSDAY, NOVEMBER 8, 3 – 4 PM**

### **NICHD Fellows Advisory Committee Meeting**

The committee meets monthly to exchange ideas and informally discuss ways we can enhance and tailor the training experience within the NICHD intramural program (see [November Announcements](#) for more information). Please contact Dr. Erin Walsh at [erin.walsh@nih.gov](mailto:erin.walsh@nih.gov) if you are interested in joining the group.

**WEDNESDAY, NOVEMBER 14, 1:30 – 3 PM**

### **Responsible Conduct of Research Training for NEW Postdocs Discussion of Ethical Research Practices: Making Good Choices**

***This mandatory training is for all postdocs who started after January 1, 2018.***

An interactive session that promotes both self-directed and team-based learning required for all new postdoctoral fellows, through the Office of Education. Led by the Office of Education, this session will include case studies and reading assignments related to research integrity and discussions on ways to reduce risk factors.

The session will begin with a brief discussion on pre-assigned reading materials, followed by small-group, team-based learning exercises involving complex cases that promote discussions of either fabrication, falsification, plagiarism, mentoring expectations, and/or trainee responsibilities. The workshop will include good practices of data management and presentation, including lab notebook management—both physical and electronic. For additional details and to register, contact Dr. Erin Walsh at [erin.walsh@nih.gov](mailto:erin.walsh@nih.gov).

**MONDAY, NOVEMBER 26, NOON – 1 PM**

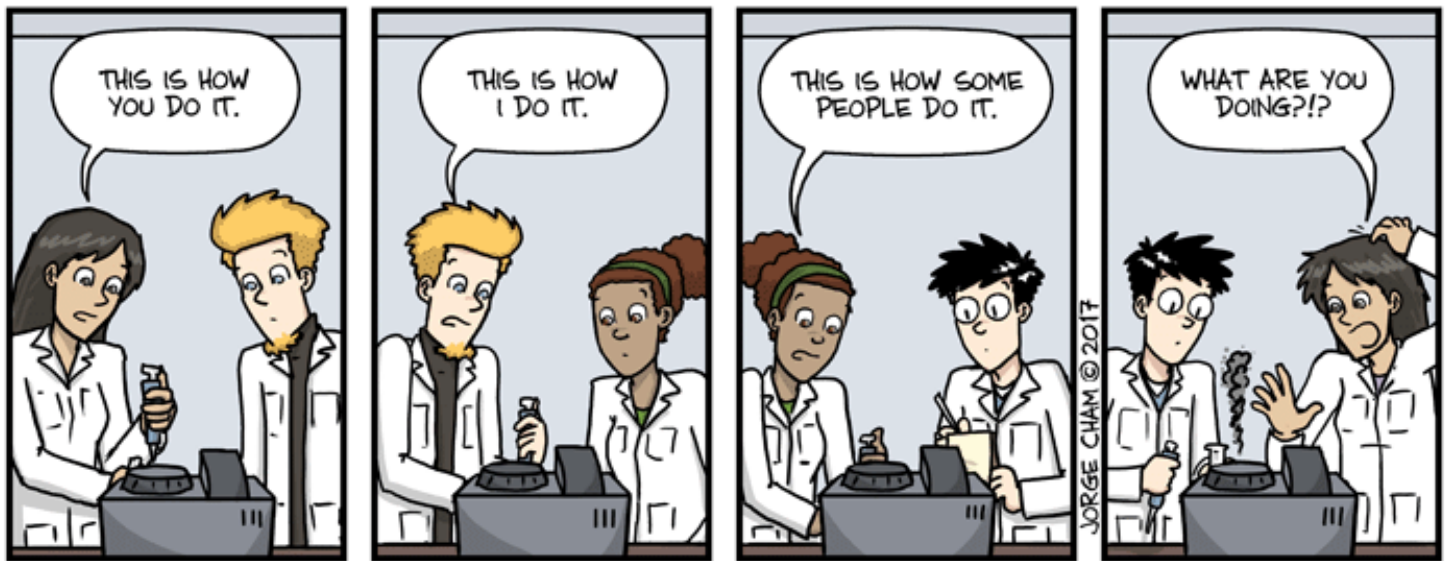
### **“Interviewing for Professional School” Scott Morgan**

This workshop is part of the 9-week course available for all NICHD postbacs. Pre-registration was required. For more information on upcoming opportunities, please contact Dr. Erin Walsh at [erin.walsh@nih.gov](mailto:erin.walsh@nih.gov).



## PHD Comics

### TRAINING TELEPHONE



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<http://phdcomics.com/comics/archive.php?comid=1994>

